

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2221

Port of *Baltimore* Date of First Survey *12th July 1917* Date of Last Survey *12th Nov 1917* No. of Visits *12*
 No. in Reg. Book *482* on the ~~Iron or Steel~~ *Steamer "William Dorn"* Port belonging to *New York*
 Built at *Baltimore Md* By whom *Baltimore D. D. & S. B. Co* When built *1917*
 Owners *United States Shipping Board* Owners' Address *Emergency Fleet Corporation*
 Card No. *78* Electric Light Installation fitted by *J. M. Lucas Co. Baltimore* When fitted *1917*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two generating sets each rated at 10 H.P. direct coupled to reciprocating engines 7" x 6" x 425 revs.

Capacity of Dynamo *87* Amperes at *115* Volts, whether continuous or alternating current *Continuous*

Where is Dynamo fixed *Engine Room Upper platform* Whether single or double wire system is used *Double*

Position of Main Switch Board *Near Dynamoes* having switches to groups *6* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Engine Room 4 Poop Starb^d & Poop Port 8 Forecastle 4*

If fuses are fitted on main switch board to the cables of main circuit *Yes* and on each auxiliary switch board to the cables of auxiliary circuits *Yes* and at each position where a cable is branched or reduced in size *Yes* and to each lamp circuit *Yes*

If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits *Yes*

Are the fuses of non-oxidisable metal *Yes* and constructed to fuse at an excess of *25* per cent over the normal current

Are all fuses fitted in easily accessible positions *Yes* Are the fuses of standard dimensions *Yes* If wire fuses are used

Are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit *Yes*

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases *Yes*

Total number of lights provided for *195* arranged in the following groups :-

<i>40</i>	lights each of	<i>20</i>	candle power requiring a total current of	<i>9.1</i>	Amperes
<i>75</i>	lights each of	<i>20</i>	candle power requiring a total current of	<i>17.0</i>	Amperes
<i>75</i>	lights each of	<i>20</i>	candle power requiring a total current of	<i>17.0</i>	Amperes
<i>Search</i>	lights each of		candle power requiring a total current of	<i>30.0</i>	Amperes
<i>Wireless</i>	lights each of		candle power requiring a total current of	<i>30.00</i>	Amperes
<i>2 Mast head light with 2 lamps each of 28</i>			candle power requiring a total current of	<i>2.8</i>	Amperes
<i>2 Side light with 1 lamps each of 48</i>			candle power requiring a total current of	<i>1.1</i>	Amperes
<i>4 Cluster Cargo lights of 20</i>			candle power, whether incandescent or arc lights	<i>incandescent</i>	

Are arc lights, what protection is provided against fire, sparks, &c. *Search Light only*

Where are the switches controlling the masthead and side lights placed *On tell tale in pilot-house*

DESCRIPTION OF CABLES.

<i>16</i>	Main cable carrying	<i>87</i> Amperes, comprised of	<i>19</i> wires, each	<i>14</i> S.W.G. diameter,	<i>.098</i> square inches total sectional area
<i>11</i>	Branch cables carrying	<i>18</i> Amperes, comprised of	<i>17</i> wires, each	<i>16</i> S.W.G. diameter,	<i>.021</i> square inches total sectional area
<i>11</i>	Branch cables carrying	<i>9.1</i> Amperes, comprised of	<i>17</i> wires, each	<i>18</i> S.W.G. diameter,	<i>.013</i> square inches total sectional area
<i>11</i>	Feeds to lamps carrying	<i>3</i> Amperes, comprised of	<i>1</i> wires, each	<i>14</i> S.W.G. diameter,	<i>.005</i> square inches total sectional area
<i>11</i>	Cargo light cables carrying	<i>14</i> Amperes, comprised of	<i>19</i> wires, each	<i>26</i> S.W.G. diameter,	<i>.005</i> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

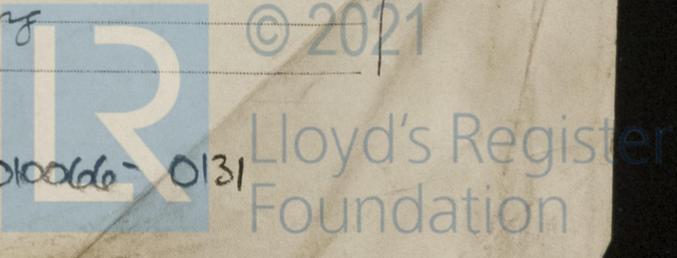
Wires covered with *3/32* pure gum, insulating tape jute filler & bound with insulating tape. All wiring except in accommodations led through enamel lined conduits.

Joints in cables, how made, insulated, and protected *Spliced & soldered, taped with pure gum, waterproof taping & coated with insulating compound.*

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances *Yes* Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage *Yes*

Are there any joints in or branches from the cable leading from dynamo to main switch board *No*

How are the cables led through the ship, and how protected *In enamel lined iron piping*



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible Yes

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture In iron conduits

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat " " "

What special protection has been provided for the cables near boiler casings " " "

What special protection has been provided for the cables in engine room " " "

How are cables carried through beams In iron conduits through bulkheads, &c. Ditto with stuffing boxes

How are cables carried through decks " " " with stuffing boxes

Are any cables run through coal bunkers or cargo spaces or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected In iron conduits close to decks

Are any lamps fitted in ~~coal bunkers~~ or spaces which may at times be used for cargo, ~~stores~~, or baggage Yes

If so, how are the lamp fittings and cable terminals specially protected In watertight globes with metal guards

Where are the main switches and fuses for these lights fitted Prof switch boards

If in the spaces, how are they specially protected None

Are any switches or fuses fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Portable How fixed

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel

How are the returns from the lamps connected to the hull

Are all the joints with the hull in accessible positions

Is the installation supplied with a voltmeter Yes, and with an amperemeter for each dynamo, fixed Mantiquilet board

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion No

How are the lamps specially protected in places liable to the accumulation of vapour or gas in watertight fixtures with metal guards

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

J. C. M. Stewart Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass 50 ft

Distance between dynamo or electric motors and steering compass 50 ft

The nearest cables to the compasses are as follows:—

A cable carrying	<u>30</u>	Amperes	<u>6</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>1/4</u>	Amperes	<u>1</u>	feet from standard compass	<u>1</u>	feet from steering compass
A cable carrying		Amperes		feet from standard compass		feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power Yes

The maximum deviation due to electric currents, etc., was found to be Nil degrees on course in the case of the standard compass and Nil degrees on course in the case of the steering compass.

J. W. Williams Builder's Signature. Date _____
Vice-President & General Manager.

GENERAL REMARKS.

This installation has been fitted in an efficient manner, The workmanship & materials are good and in accordance with the Rules of this Society. The generators were each tried under full load and found satisfactory. Side & mast head lights tested.

It is submitted that this vessel is eligible for THE RECORD. Elec. light- JWD H. Stewart
14/12/17 JW Surveyor to Lloyd's Register of Shipping.

Committee's Minute Elec. Light

TUE. APR. 27 1920



THE SOLVING ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.